

What is claimed is:

1. A diagnostic apparatus for a fuel system supplying fuel to an internal combustion engine, the fuel system including a fuel tank having a headspace and a filler occluded by a removable cap, a charcoal canister in fluid communication with the headspace, and an integrated pressure management apparatus having a pressure operable device and a switch signaling displacement of the pressure operable device in response to negative pressure at a first pressure level in the charcoal canister, the diagnostic apparatus comprising:
 - a pressure source;
 - a first fitting adapted to be occluded by the removable cap, the first fitting being in fluid communication with the pressure source;
 - a second fitting adapted to sealingly engage the filler, the second fitting being in fluid communication with the pressure source and with the first fitting;
 - an orifice being in fluid communication with the pressure source, with the first fitting, and with the second fitting; and
 - a first valve controlling the fluid communication with the orifice.
2. The diagnostic apparatus according to claim 1, further comprising:
 - a pressure guage in fluid communication with the pressure source.
3. The diagnostic apparatus according to claim 3, wherein the pressure guage measures a range of pressures that exceeds an operational range of the integrated pressure management apparatus.
4. The diagnostic apparatus according to claim 3, wherein the pressure guage measures a range of pressures between one inch of water above ambient pressure and two inches of water below ambient pressure.
5. The diagnostic apparatus according to claim 1, further comprising:
 - a second valve controlling the fluid communication with the second fitting.
6. The diagnostic apparatus according to claim 1, wherein the first fitting comprises a first one of a male member and a female member, the second fitting comprises a second

7. The diagnostic apparatus according to claim 1, wherein the pressure source comprises one of a manually operated pump and a electromechanical pump.

installing a diagnostic apparatus between the filler and the cap, the diagnostic apparatus including a pressure source;

9. The method according to claim 8, further comprising:
measuring the vacuum relative to ambient pressure.

11. The method according to claim 10, further comprising:
comparing the measured pressure level and the predetermined pressure level.

13. The method according to claim 9, further comprising:
preventing fluid communication between the pressure source and the filler;
wherein the measuring the vacuum detects leaks in the cap.

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